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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,018	12/20/2001	Stefan J. Murry	PAT024US	3257

27543 7590 06/17/2003

APPLIED OPTOELECTRONICS, INC.
13111 JESS PIRTLE BLVD.
SUGAR LAND, TX 77478

EXAMINER

VY, HUNG T

ART UNIT PAPER NUMBER

2828

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,018

Applicant(s)

MURRY ET AL

Examiner

Hung T Vy

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-- **Th MAILING DATE of this communication app ars on th cover sheet with th correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. In response to the communications dated 12/20/2001, claims 1-16 are pending in this application.

Acknowledges

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 02/10/2003 and made of record as Paper No. 4. The references cited on the PTOL 1449 form have been considered.

Specification

3. The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 14, the claims fail to recite the structure of a planar lightwave circuit, how relation between the primary waveguide and secondary waveguide in the PLC. Further, the claims fail to recite the structure of filter in order to generate a signal related to the intensity of the light.

Claims 2-13 and 15-16 depend from rejected claims 1 and 14 thereby render these dependent claims indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 in view of the AIPA and H.R. 2215 that forms the basis for the rejections under this section made in the attached Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly

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from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

Claims 1-5 and 13-16 are rejected under 35 U. S. C. § 102 ^(e)~~(b)~~ as being anticipated by Yamashita et al., U.S. ^{Publication}~~patent~~ No. 2001/0053265.

Regarding claims 1-4, Yamashita et al. discloses a planar lightwave circuit module (See paragraph 0035) for conditioning light output from a tunable laser designed to generate light at a target wavelength, the PLC module comprising: a substrate (20)(See paragraph 0035); a primary waveguide (16c) embedded in said substrate (20), said primary waveguide having an input end for receiving light from the tunable laser and an output end for outputting said light (see fig 2); at least a first secondary waveguide (16b) embedded in said substrate (20), said first secondary waveguide receiving a first portion of said light from the tunable laser; and a filter (30) having a passband centered on the target wavelength and coupled to an output of the first secondary waveguide (16b) to receive said first portion of light, wherein said filter (30) is adapted to generate a signal related to the intensity of said first portion of light in the passband centered on the target wavelength (See paragraph 0070), a power monitoring photo sensor (PD1 and PD2).

Regarding claims 5, Yamashita et al. discloses a planar lightwave circuit module, wherein said substrate (20) is silica or silicon substrate (See paragraph 0035) and the waveguides are patterned silicon oxide waveguides embedded in said substrate (See 1).

Regarding claims 13-16, Yamashita et al. discloses a system for conditioning light output from a laser designed to generate light at target wavelength, comprising: a planar lightwave circuit module (See paragraph 0035) for conditioning light output from a tunable laser designed to generate light at a target wavelength, the PLC module comprising: a substrate (20)(See paragraph 0035); a primary waveguide (16c) embedded in said substrate (20), said primary waveguide having an input end for receiving light from the tunable laser and an output end for outputting said light (see fig 2); at least a first secondary waveguide (16b) embedded in said substrate (20), said first secondary waveguide receiving a first portion of said light from the tunable laser; and a filter (30) having a passband centered on the target wavelength and coupled to an output of the first secondary waveguide (16b) to receive said first portion of light, wherein said filter (30) is adapted to generate a signal related to the intensity of said first portion of light in the passband centered on the target wavelength (See paragraph 0070), a power monitoring photo sensor (PD1 and PD2), and the processor for generating, based on said filter output signal, a control signal, to adjust the lasing wavelength of the tunable laser to achieve or maintain the target wavelength (See paragraph 0070), drive circuitry (330)(See fig 9).

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamashita et al., U.S. patent No. 2001/0053265, in view of Lemoff et al., U.S. patent No. 5,894,535.

Regarding claims 6-9, Yamashita et al. disclose all limitation of PLC module except target wavelength is one of plurality of different target wavelength and filter I tunable filter the passband. However, Lemoff et al. discloses a plurality of different target wavelengths (See fig 1-3), the filter is a multiple-output filter (45) having a plurality of filters, one for each of the plurality of the target wavelengths (See fig 1-3); and multiple-output filter comprises a reflectively coupled zigzag waveguide (See fig 1-3).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Yamashita et al. to have a multiple-output filter as taught by Lemoff et al. because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

8. Claims 10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamashita et al., U.S. patent No. 2001/0053265, and Lemoff et al., U.S. patent No. 5,894,535 in view of Chang-Hasmain et al., U.S. Patent No. 6,233,263.

Regarding claim 10, Yamashita et al. and Lemoff et al. disclose all limitations of PLC module except for multiple-output filter comprises: a plurality of substantially

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identical distributed dielectric multiple stack filter, a plurality of second filter waveguide. However, Chang-Hasnain et al. discloses a filter with mutilay stack filer (See column 5, line 1-5). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Yamashita et al. and Lemoff et al. to have a filter having a plurality stack filter as taught by Chang-Hasmain et al. because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

9. Claims 11-12 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Yamashita et al., U.S. patent No. 2001/0053265, in view of Munks et al., U.S. Patent No.6, 289,028.

Regarding claim 11-12, Yamashita et al. discloses all limitations of PLC module except on the primary waveguide comprises a conditioning device. However, Munks et al. discloses a semiconductor optical amplifier (See column 2, line 1-14).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Yamashita et al. to have a optical amplifier as taught by Munks et al. because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Citation of Pertinent References

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The patent to Chung et al. discloses Cold-start Wavelength-division-multiplexed Optical Transmission System, U.S. Patent No. 6,349,103.

The patent to Onaka et al. discloses Optical Filter, Method of Controlling Transmission Wavelength thereof, and Optical receiver Using The Method, U.S. Patent No. 5,469,288.

The patent to Stayt, Jr. et al. discloses Method to Sense Laser Array Power and Wavelength and Reduce Drift for Wavelength Selection and Stabilization, U.S. Patent No. 6,389,046.

Conclusion

10. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (703) 605-0759. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


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Hung T. Vy
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June 13, 2003